

Patent

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Appendix 12

Review Article

Medical Progress

MENINGOCOCCAL DISEASE

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REPORTS of illness resembling meningococcal disease date back to the 16th century. The description reported by Vieusseux in 1805 is generally thought to be the first definitive identification of the disease,¹ and the causative organism, *Neisseria meningitidis*, was first isolated in 1887.² Yet meningococcal disease remains a leading cause of bacterial meningitis and sepsis in the United States and a major cause of epidemics in sub-Saharan Africa. Short of abolishing tobacco use, which is thought to be responsible for almost one third of cases,³ routine vaccination of high-risk populations is likely to be the most effective public health strategy for controlling meningococcal disease. Several companies are in the final stages of developing and testing meningococcal conjugate vaccines for licensure in the United States. These vaccines have been developed with the techniques used to develop *Haemophilus influenzae* type b conjugate

coccal disease, occurs year-round, but the majority of cases occur during the winter and early spring.⁶ The rates of disease are highest among infants in whom protective antibodies have not yet developed; the rates drop after infancy and then increase during adolescence and early adulthood.⁶ Although the rates of meningococcal disease once again drop after early adulthood, more cases occur in persons 23 to 64 years old than in any other age group (unpublished data). The proportion of cases among adolescents and young adults has increased in recent years; during the period from 1992 to 1996, 28 percent of affected persons were between 12 and 29 years old.⁶ This change has important implications for preventive strategies.

Since the new meningococcal conjugate vaccines, like the currently available quadrivalent polysaccharide vaccine, will provide serogroup-specific protection, the distribution of serogroups is a key factor in the design of vaccination programs. From 1988 to 1991, most cases of meningococcal disease in the United States were due to either serogroup C or serogroup B, and serogroup Y accounted for only 2 percent of cases.⁷ In recent years, the number of cases involving serogroup Y has increased; from 1996 to 1998, one third of cases were due to serogroup Y, which is also more commonly associated with pneumonia than are serogroups B and C.⁸ In the 1970s, serogroup Y was also recognized as a frequent cause of sporadic disease